

Book Reviews

ACS conference proceedings series

Eighth international congress of pesticide chemistry options 2000, ed. N. N. Ragsdale, P. C. Kearney & J. R. Plimmer, American Chemical Society, Washington DC, USA, 1995, xiv + 450 pp., price US\$99.95.
ISBN 0 8412 2995 3

This book incorporates the opening address by Walde-mar Klassen (FAO/IAEA, Vienna), on 'World Food Security up to 2010 and the Global Pesticide Situation', and 38 papers presented in 10 symposia representing the main topics of the 8th IUPAC sponsored Congress of Pesticide Chemistry, held in Washington, DC, 4–9 July, 1995.

The coverage ranges from the generation of new compounds to assessment of pesticide impact on the environment in 10 sections, namely, (1) Chemical synthesis, (2) Delivery of pesticides to their targets, (3) Environmental fate and behaviour, (4) Residues, (5) Biotechnology, (6) Metabolism, (7) Mode of action, (8) Resistance, (9) Regulation, (10) Risk assessment.

In (1), a lead paper on clues to direct synthesis through structure–activity relations and modelling is followed by others, on substituted pyrazole herbicides, chloronicotinyl insecticides (imidacloprid) and the recent fungicidal beta-methoxyacrylates. Formulations, packaging and application, and controlled release, extending to biopesticides, are included in (2); pesticide movement to non-target areas, air, subsurface soils and groundwater in (3), which also refers to lake water contamination by herbicides and organochlorine insecticides. The analytical advances in (4) relate to multi-residue analysis; isomer/enantiomer analysis by chiral resolution gas chromatography and mass spectrometry; aqueous extraction from fruit and vegetables; biotechnology-based methods. The short section (5) includes highlights of the biotechnological production of disease and pest control agents, identification of genes for disease resistance in plants, and regulatory aspects (European Union) relating to foods derived from biotechnology.

Metabolism (6), mode of action (7) and resistance (8) determine the efficiency and selective action of pesticides; the four papers in (6) relate to mammalian pharmacokinetics; plant metabolism and design of selective

herbicides; metabolite identification; and biotransformation in aquatic animals. Advanced knowledge of molecular modes of action (7) increasingly influences the design of herbicides and fungicides, whilst remarkable progress in molecular neurobiology is solving old problems of insecticide mode of action and suggesting new chemicals. Strategies for avoiding or delaying the onset of resistance are critically important. Inheritance of resistance is examined in (8), which considers also the possible use of synergists and the management of resistance to fungicidal sterol demethylation inhibitors.

The relationship between 'hazard' and 'risk' is discussed in section (9), with reports on pesticide risk reduction in North America and on regulatory developments in Europe. A contrasting paper highlights difficulties of pesticide registration in Latin America. The volume concludes (section 10) with two papers on health risk assessment, with emphasis on issues for improved decision making, and two on the ecological risk assessment of pesticides, from theoretical considerations in soils and from field-derived data. There is a subject index.

The book reflects the views of internationally recognised scientists and these papers provide the framework on which was based a Congress involving, additionally, more than 30 workshops and 900 poster presentations, indicating the complexity of the subject as we approach the year 2000. Based on the Congress symposia, the papers inevitably vary in substance and presentation. Nevertheless, the book is recommended as a well presented indication of the intense and continuing effort to refine the essential contribution of chemicals in the safe management of weeds, pests and diseases.

G. T. Brooks

The crop protection directory 1995–96: UK Edition, ed. Elaine Warrell, London, 1995, 526 pp., price £110.00.
ISBN 0 9513330 2 X

Anyone who works in any part of the agrochemical industry will have experienced the problem of finding the names of organisations that have the expertise to solve your crop protection problems. If you do find the